

Association of Bay Area Governments



Technical Assistance
for Local Planning

HOUSING

Change your Zoom participant name to read:
Name, Jurisdiction/Affiliation

WILDFIRES - PRESERVATION & PROTECTION OF HOMES

SESSION 4

Land Use Planning in the WUI

How can density be added
while adding protection to
homes and neighborhoods?

Association of Bay Area Governments | December 2, 2021

Purpose

Join city/county planners with wildfire professionals and experts to proactively protect and preserve housing from wildfires.

Learn from state and national experts that outline current science, technology, programs and best practices.



• Expectations Overall

- The Bay Area has overlapping crises. We need to solve for multiple complicated and connected crises.
 - Housing affordability, climate change, and inequity are all pressing challenges. We can't solve just one crisis.
- Get grounded with current experts to frame issues and ideas more comprehensively with staff.
- Need holistic and integrated policies and programs. Solutions exist - focus on what local government can do to have an impact.

• Expectations of the Session

- Seeking active conversations and the wisdom in the room.
- Turn on camera and participate during discussion portion.

WORK GROUP MEETINGS

WILDFIRES - PRESERVATION & PROTECTION OF HOMES

9/30

COMPLETED

Wildfires & Housing 101

Overview of fire evolution, fire science, intro to home hardening & defensible space, plus introduction of Marin Wildfire Prevention Authority.

10/14

COMPLETED

Defensible Space & Home Hardening + CAL FIRE Update

Deep dive into defensible space & home hardening with updates from CAL FIRE plus practical resident guidance.

11/4

COMPLETED

Evacuations: Laws, Practices & Technology

Exploration of new evacuation laws (SB 99, AB 747), OPR updates, and approaches to modeling.

12/2

Land Use Planning in the WUI + ADUS

Outline planning & risk mitigation initiatives for wildfires. Explore how to add ADUs and housing in the WUI.



Agenda

01

OVERVIEW

Welcome, introductions, and overview of Session 4 “Land Use Planning in the WUI”

02

SPEAKERS

Speakers to ground us in traditional and emerging land use planning tools to protect housing from wildfires.

03

CHALLENGES & BREAKOUT SESSIONS

Deep dive into three key challenges related to housing/wildfires - looking for practical ideas and next steps.

04

CONCLUSION

Review upcoming sessions and review Resource Guide.

SESSION 4

Land Use Planning in the WUI

How can density be added while adding protection to homes and neighborhoods?



Today's Speakers

MOLLY MOWERY

Executive Director
Community Wildfire Planning Center



*Approaches to integrating
wildfire dynamics into
land use planning.*

MATT DAMON

Deputy Chief
Land Use Planning Program
CAL FIRE



*Updates on CAL FIRE Land
Use Planning Division
processes and resources.*

BETH HOTCHKISS

Associate Program Analyst
State Governor's
Office of Planning and Research



*Updates on active OPR
wildfire projects and
products.*



MOLLY MOWERY, AICP

Executive Director
Community Wildfire Planning Center

*Approaches to integrating
wildfire dynamics into land
use planning.*

- Co-developed national wildfire programs, including Fire Adapted Communities, Community Planning Assistance for Wildfire, and REALFire.
- Designs and delivers national trainings for land use planners and fire professionals.
- Founded Wildfire Planning International, land use/wildfire mitigation consulting firm.
- Member of APA, Chair-Elect for Hazard Mitigation and Disaster Recovery Division. Lead author of Planning Advisory Service Report 594 “Planning the Wildland-Urban Interface”.
- Bachelor’s degree from Naropa University and Master’s degree in City Planning from MIT.

An aerial photograph of a residential area with a yellow semi-transparent text box in the center. The background shows a mix of green trees, some bare trees, and houses on a hillside. In the foreground, there is a dirt area with some construction equipment and a paved road on the left. Mountains are visible in the distance under a clear blue sky.

Land Use Planning for Fire-Adapted Communities



Molly Mowery, AICP

Executive Director, Community Wildfire Planning Center

Association of Bay Area Governments Wildfire Resilience Series I December 2, 2021



What is a Fire-Adapted Community?

What is a Fire-Adapted Community?

Training

Building construction

Land restoration

Land uses

Post-disaster recovery

Vulnerable populations

Habitat protection

Emergency preparedness and response

Water supply

Critical infrastructure

Access

Siting and density

Vegetation/
fuel management

Defensible space

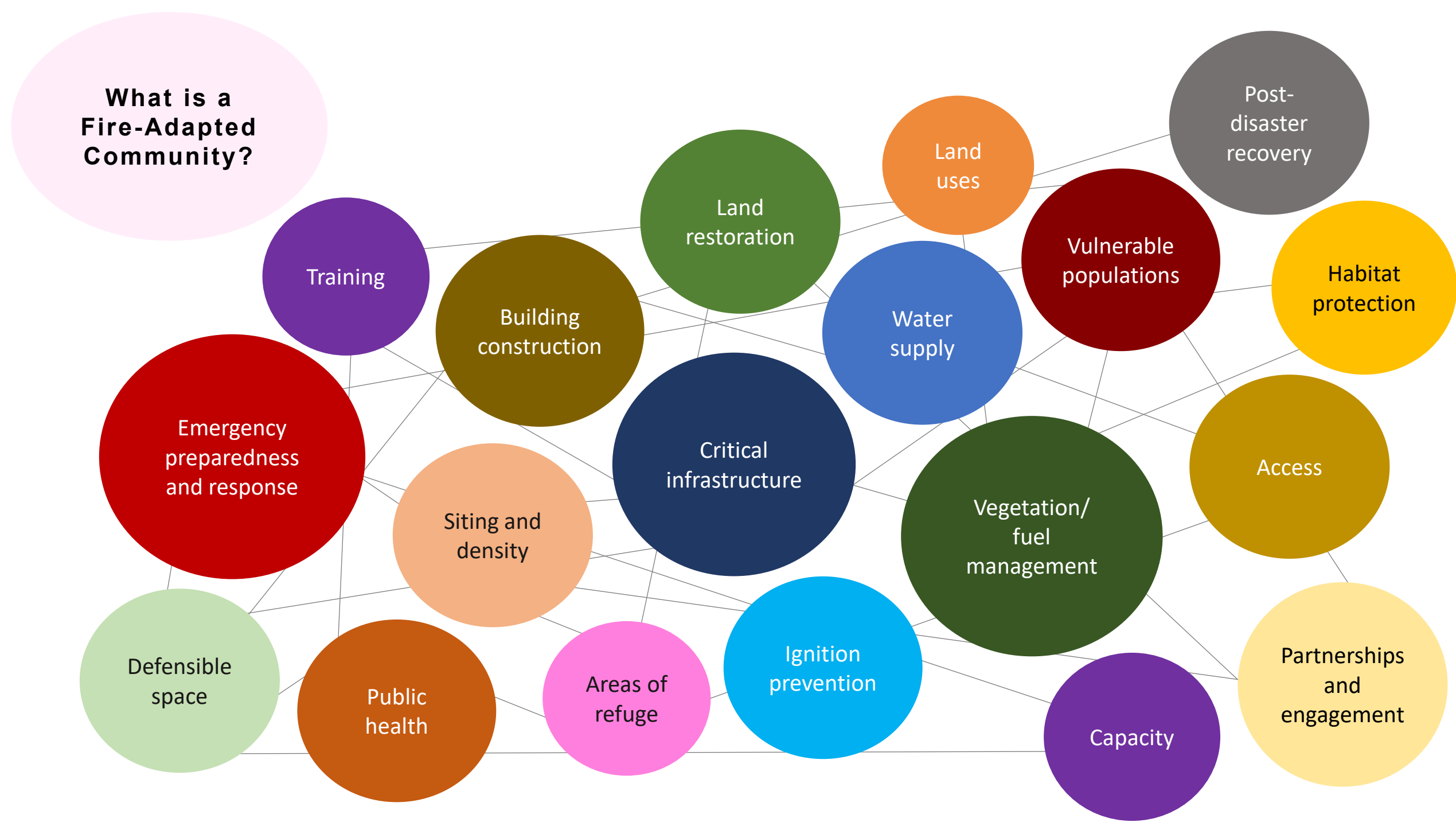
Public health

Areas of refuge

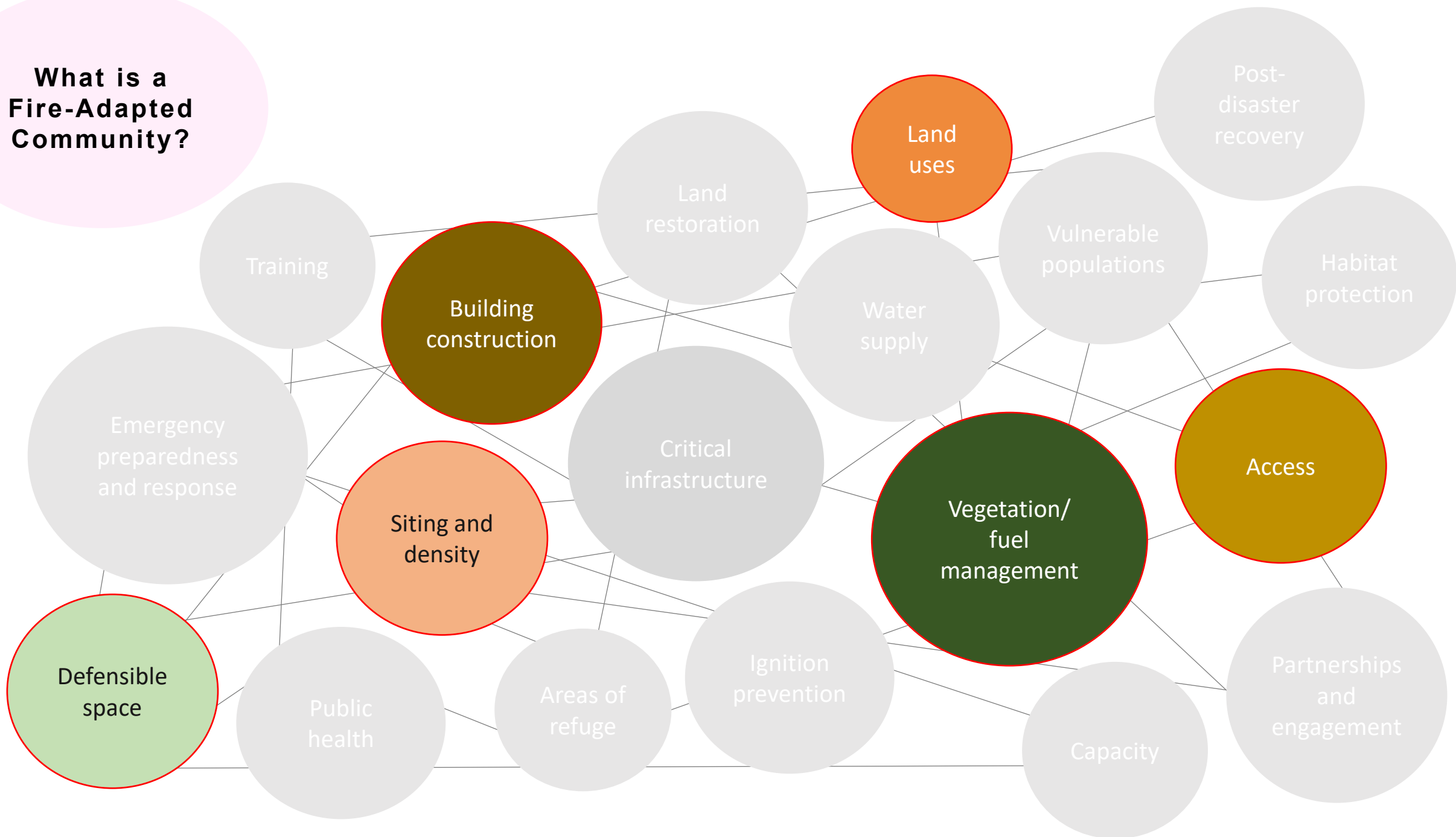
Ignition prevention

Capacity

Partnerships and engagement



What is a Fire-Adapted Community?





**Fire-adapted actions are
interconnected**



Waldo Canyon Fire, 2012 (Colorado)

Image Credit: National Interagency Fire Center





Vegetation/
fuel
management

Defensible
space

Siting and
density

Building
construction



Vegetation/
fuel
management

Defensible
space

Siting and
density

Building
construction



Lessons Learned from Waldo Canyon

FIRE ADAPTED COMMUNITIES
MITIGATION ASSESSMENT TEAM FINDINGS





⦿ Sleepy Hollow Fire, 2015 (Washington)

Image Credit: World Photo/Don Seabrook



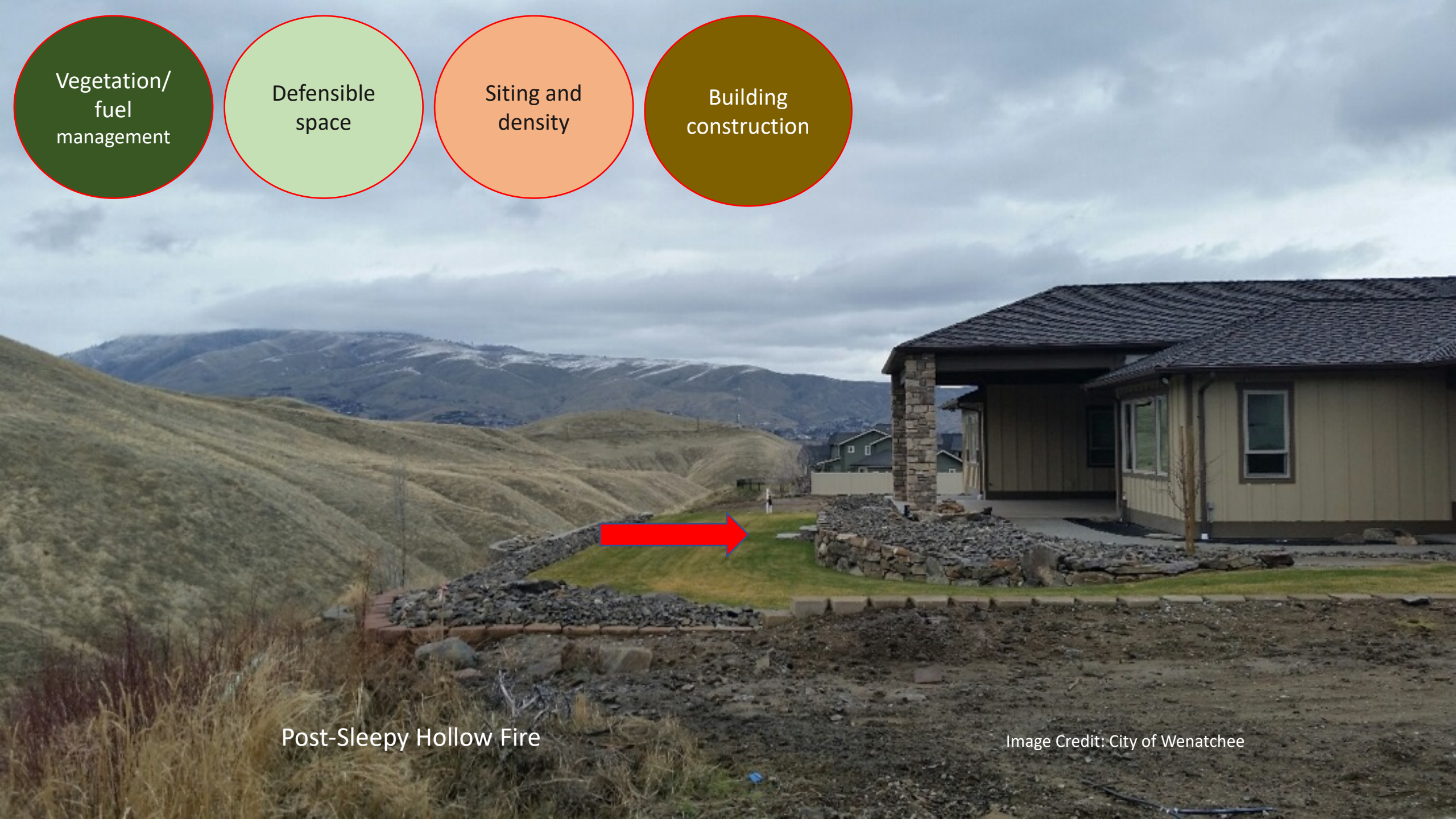
Image Credit: Molly Mowery

Vegetation/
fuel
management

Defensible
space

Siting and
density

Building
construction



Post-Sleepy Hollow Fire

Image Credit: City of Wenatchee



**Fire-adapted actions are not
interchangeable**

Access



Image Credit: Molly Mowery



Image Credit: Molly Mowery



Image Credit: Molly Mowery

Access

Building
construction

Defensible
space



Image Credit: Molly Mowery



Test your knowledge!

Land uses

Q. Which additional land uses should be subject to conditions of approval in wildfire hazard areas?



A. Vulnerable uses



B. Hazardous land uses



C. Temporary land uses

Land uses

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D. All of the above

Land uses

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D. All of the above!

Vegetation/
fuel
management

Siting and
density

Q. When are greenbelts, golf courses, parks, trails, and similar land uses considered fuel breaks?



Image Credit: Molly Mowery

Vegetation/
fuel
management

Siting and
density

A. When they meet the conditions to alter fire behavior and/or not support ignition or fire spread.



Image Credit: Molly Mowery

Siting and
density

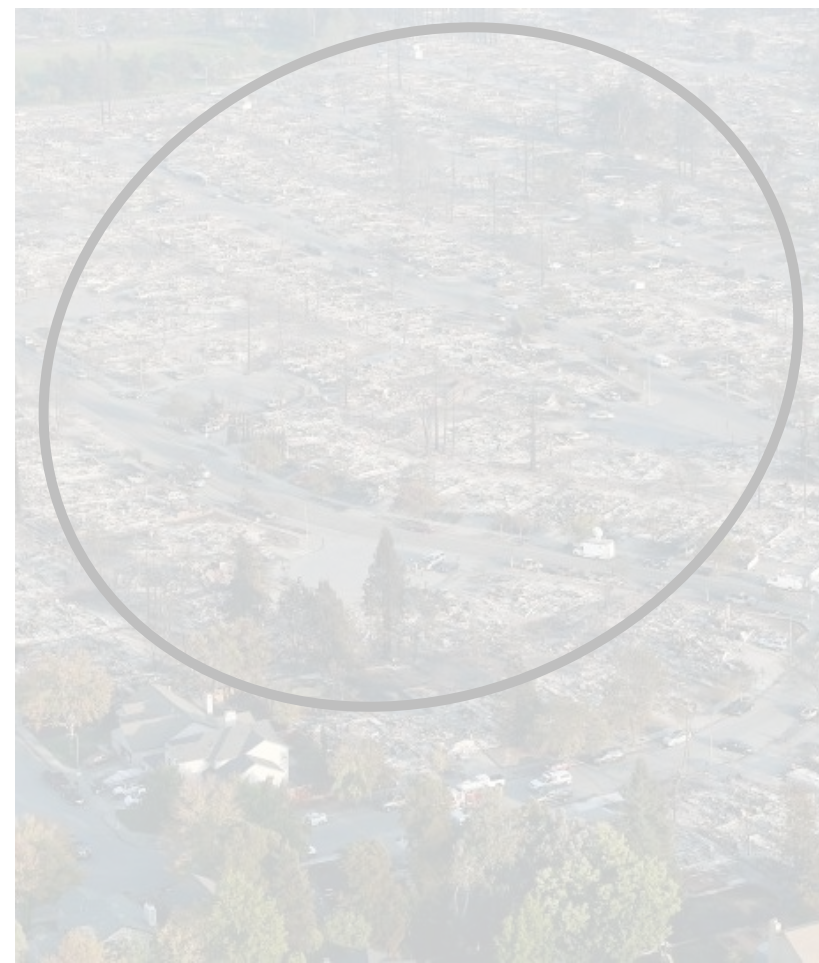
Q. Which type of housing density results in the highest number of structure losses from a wildfire?



A. Low-density (WUI Intermix)



B. Medium-density (WUI Interface)



C. High-density (WUI Interface)

Molly Mowery (left); SC Division of Forestry, National Interagency Fire Center (right)

Siting and
density

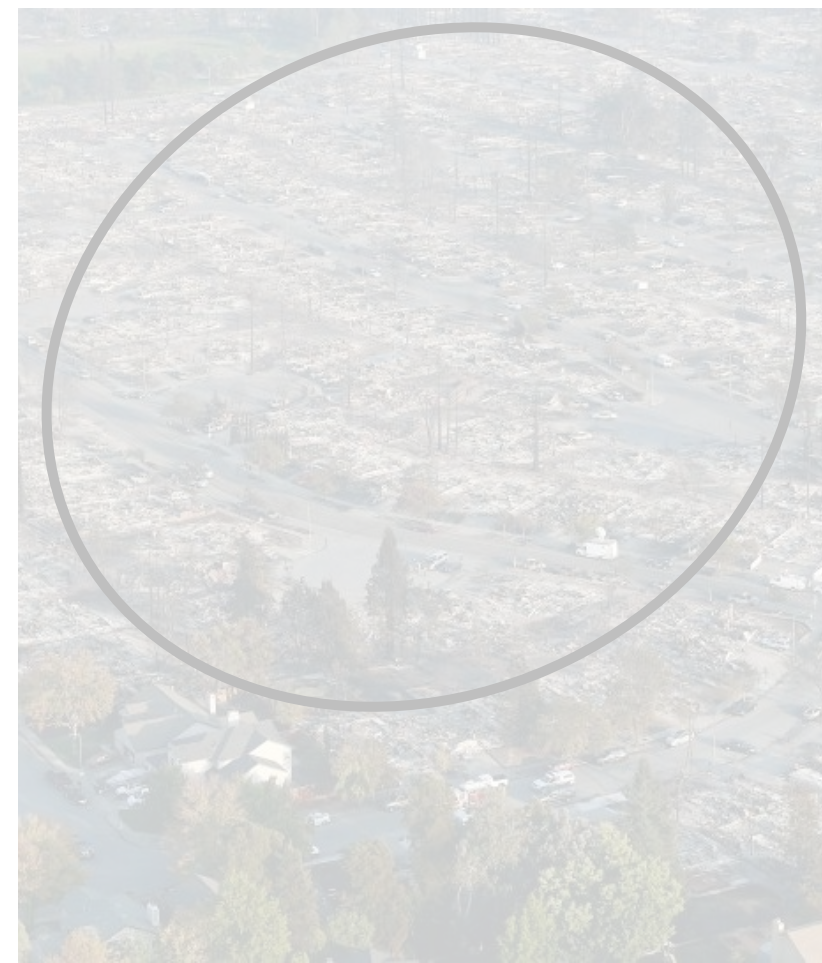
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Molly Mowery (left); SC Division of Forestry, National Interagency Fire Center (right)

Density & Structure Loss

“Nevertheless, losses in urban areas were still only a portion of the total number of structures destroyed... and thus do not change the **main conclusions of our study: overall, most structure loss tends to occur in areas of low-density.**”

Syphard et al., 2019. **The relative influence of climate and housing development on current and projected future fire patterns and structure loss across three California landscapes.** Global Environmental Change, (56), pp.41-55
<https://doi.org/10.1016/j.gloenvcha.2019.03.007>

Density & Structure Loss

“We found that interface WUI contained 50% of buildings destroyed by wildfire, whereas intermix WUI contained only 32%. The proportion of buildings destroyed by fires among classes was similar, though highest in interface WUI areas (15.6%). **Our results demonstrate that the interface WUI is where most buildings were destroyed in California,** despite less wildland fuel.”

Kramer et al., 2019. **High wildfire damage in interface communities in California.** International Journal of Wildland Fire, (28), pp 641-650 <https://doi.org/10.1071/WF18108>

Siting and
density

Q. Which type of housing density results in the highest number of structure losses from a wildfire?



More research is needed! Density decisions should also consider other planning priorities



Additional considerations



NEW DEVELOPMENT

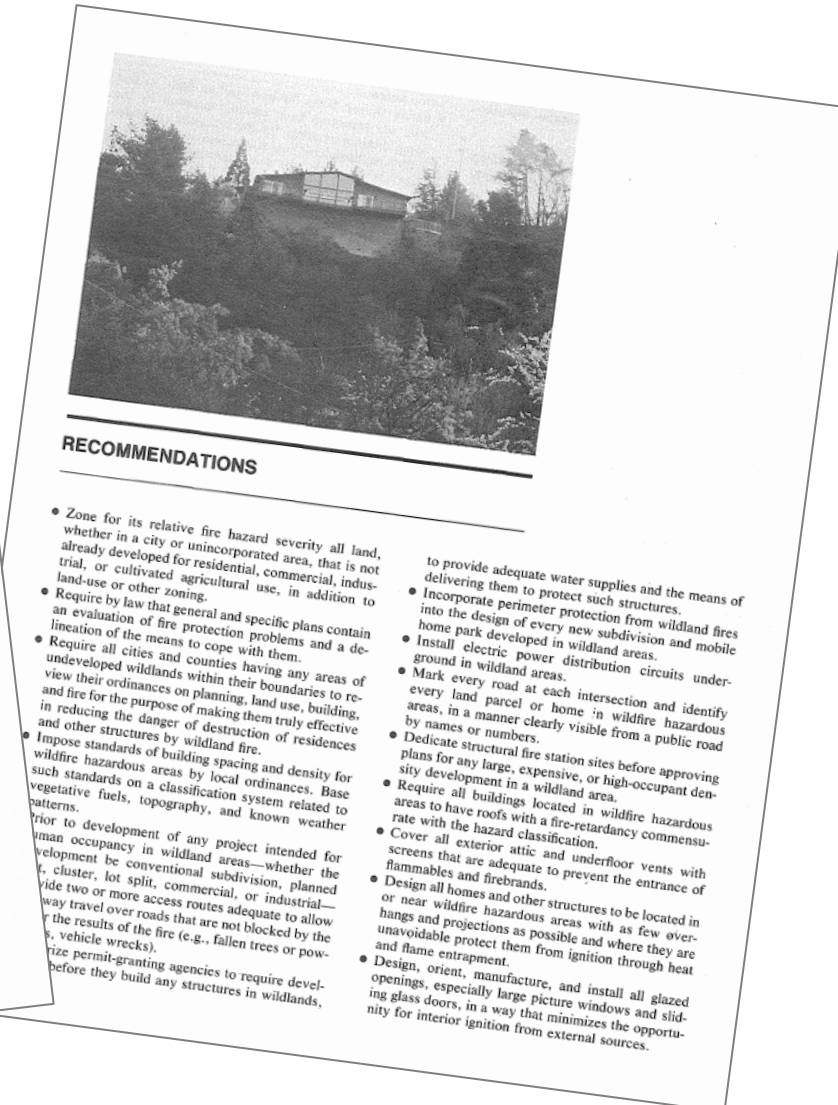
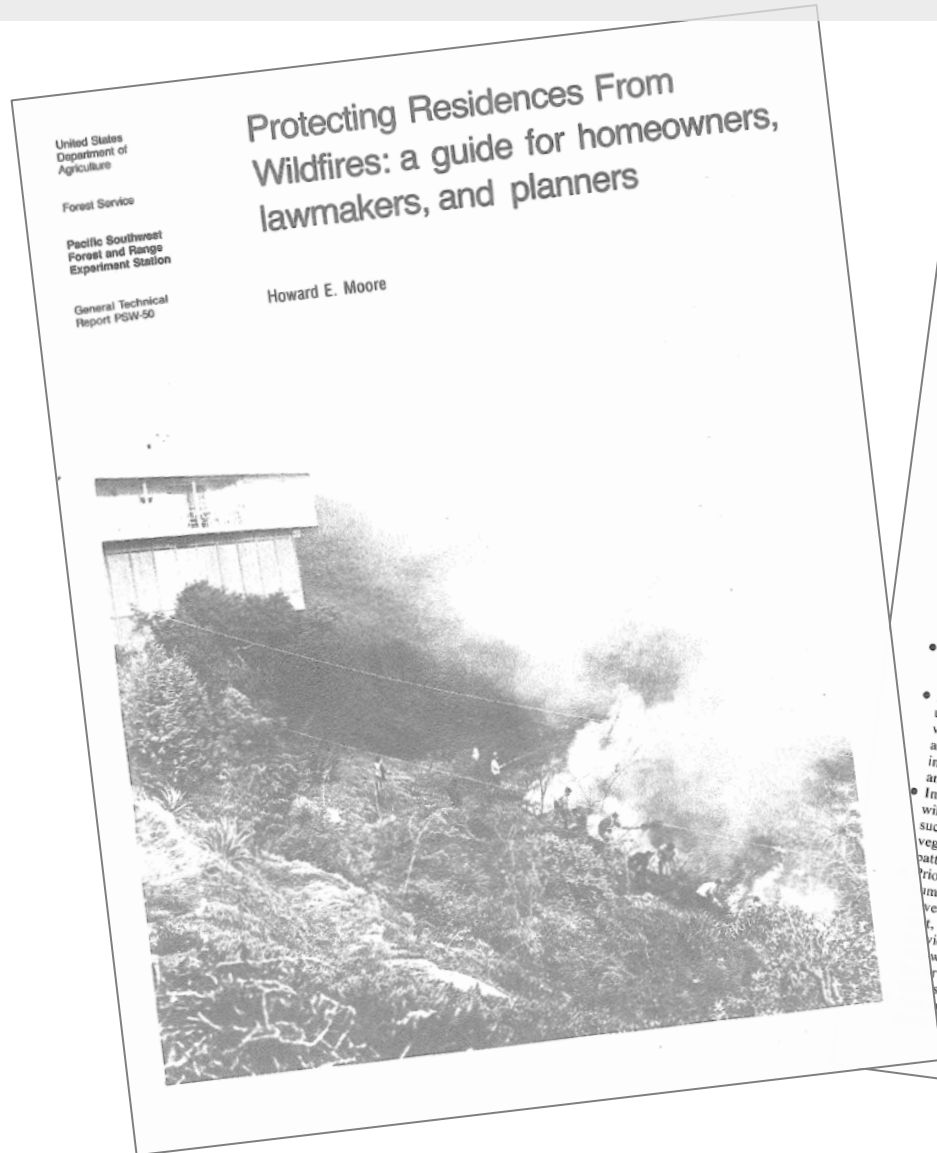
- Guided by state and local requirements
- Integrates fire adapted concepts – building, roads, water supply, landscaping, etc.
- Requires maintenance



EXISTING DEVELOPMENT

- Triggered by real estate transactions, rebuilding, retrofits
- Stronger reliance on outreach, education, voluntary efforts
- Opportunities for evacuation planning, vegetation management
- Requires maintenance

This isn't *actually* new...



“Require all cities and counties having any areas of undeveloped wildlands within their boundaries to review their **ordinances on planning, land use, building and fire** for the purpose of making them truly effective in reducing the danger of destruction of residences and other structures by wildland fire.”



Land-Use Planning May Reduce Fire Damage in the Urban-Wildland Intermix

Carol L. Rice James B. Davis



Figure 3—Shake roof being constructed on a house that narrowly missed being destroyed in the Forty-Niner Fire as appears in the foreground.

Variety in Residential Developments

Tax roll avoiders are surprisingly common and, of course, unregulated. Larger developments are easier to control because plans for them must go through several levels of review and more residences can be reviewed at one time. In contrast, lot splits are harder to track. Inequity exists with lot splits because often only the fourth builder of a four-way lot split is required to upgrade to minor subdivision standards for water, access for increased traffic, and exposure to wildfire risk. On the other hand, in Monterey County, the first to build on a lot split is required to install the required level of infrastructure, assuming the lot eventually will be fully developed.

As ordinances have become stricter, a direct relationship has developed between the age of a structure and its relative resistance to fire. Retrofitting fire resistant features to an older house, however, is difficult. Roofs are easiest (though still difficult) to retrofit because they eventually need replacement. Problems with access, setbacks, water flow, and placement on the lot in relation to topography are difficult, if not impossible, to correct (Howard and others 1973).

Often development does not pay its own way. The owners of lots that have been sold, but not built on, may have paid taxes at residential rates for years on their undeveloped property. How-

ever, the tax money collected, for their portion of the infrastructure power—is frequently spent to construction has taken place. This serious problem in many inter financial difficulties in local bankruptcy for some.

Conflicting Interests

Many decisions by homeowners based on promises made by local government and developers but not fulfilled. Residents are sometimes told of improvements planned, such as wider roads and increased water storage, yet these improvements do not happen for a variety of reasons (such as the expenditure of tax money previously mentioned). Homeowners might have taken greater precautions themselves if they knew that water storage was to remain substandard, or that road access would not be improved.

Developers and local planners may make assumptions that hamper fire-safe planning. Developers frequently paint an optimistic scenario, rather than worst case assessment. For example, developments are often planned to consist of seasonal homes (with lesser demand on services) but turn quickly into

year-round residences. Lake Wildwood, damaged in the Forty-Niner Fire, is an example (fig. 4).

Counties are reluctant to admit past shortcomings in procedures. The investigator heard the statement "We've done this all along" uttered many times while conducting this study. Those wishing to promote change must package their suggestion in a manner that does not confront or highlight past mistakes.

Fires do not occur with certainty. The concepts of "risk" or "probabilities of damage" are poorly defined, making limits on development difficult for decision-makers to justify or support. Additionally, lack of information makes tradeoffs in a variety of mitigating measures subjective. On the other hand, problems ranging from pot holes in the streets to major crime are a certainty, must be dealt with every day, and compete with wildfire protection for both attention and financial resources.

Last—but far from least—residents and planners alike seem to believe that a fire will not occur (at least not in the foreseeable future), in "my" neighborhood, and should that unlikely and unhappy event occur, the fire departments can save anything (fig. 5). These delusions are present at all levels of government and are perhaps the greatest single obstacle to effective fire-safe planning.

PLANNING TOOLS AVAILABLE FOR FIRE PROTECTION

The general planning tools described in this section were indicated by specific observations from the case studies. In gathering information on these tools, the investigator interviewed local planning officials and studied historical and current planning records.

The existing tools available for fire managers and planners to use in providing for protection from wildland fires are environmental review, codes and regulations, and the judicial process. Also, legislation proposed in California at the time of this writing would allow consideration of fire safety in county general plans.



Figure 4—Urban-wildland intermix development taking place in Lake Wildwood in Nevada County, California, near where many homes were lost in the Forty-Niner Fire.

USDA Forest Service Gen. Tech. Rep. PSW-127, 1991.

7

"The existing tools available for fire managers and planners to use in providing for protection from wildland fires are environmental review, codes and regulations, and the judicial process."

Planning tools for fire-adapted communities

- General Plan
- Fire Safe Regulations
- Subdivision Regulations
- Building Code
- Development / Zoning Code
- Fire Code
- Community Wildfire Protection Plans (CWPPs)
- Hazard Mitigation Plans
- Resiliency Plans
- Post-Disaster Recovery Plans

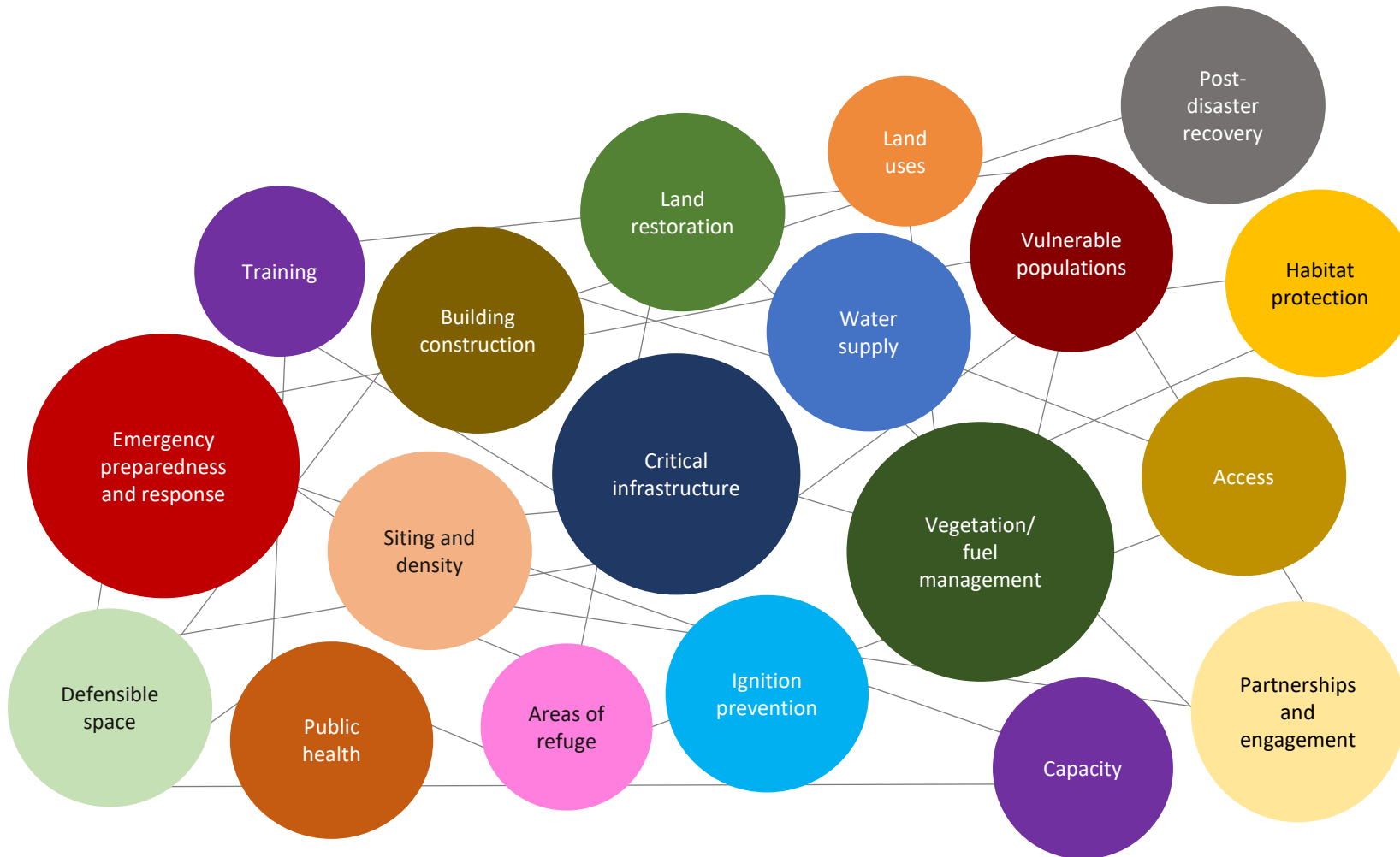
Fire Hazard Planning Technical Advisory

General Plan Technical Advice Series

2020 Update
Public Review Draft – November 2020

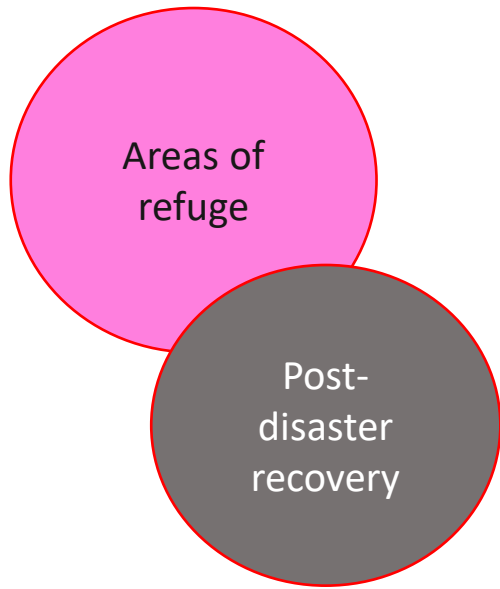


Key Takeaways



- Planning for fire adapted communities requires many actions
- Actions are not always interchangeable
- Additional research, education, and support is needed
- Wildfire planning occurs alongside many other priorities

On the Horizon



- Temporary areas of refuge – NIST Camp Fire Study
- WUI Best Practices Inventory – Adaptation Clearinghouse
- Plan Alignment Tools – OPR ICARP
- Land Uses & Fuel Breaks – CWPC / The Nature Conservancy
- Land Use Planning Training – CWPC / CAL FIRE

Stay in Touch

Molly Mowery, AICP

Executive Director, Community Wildfire Planning Center

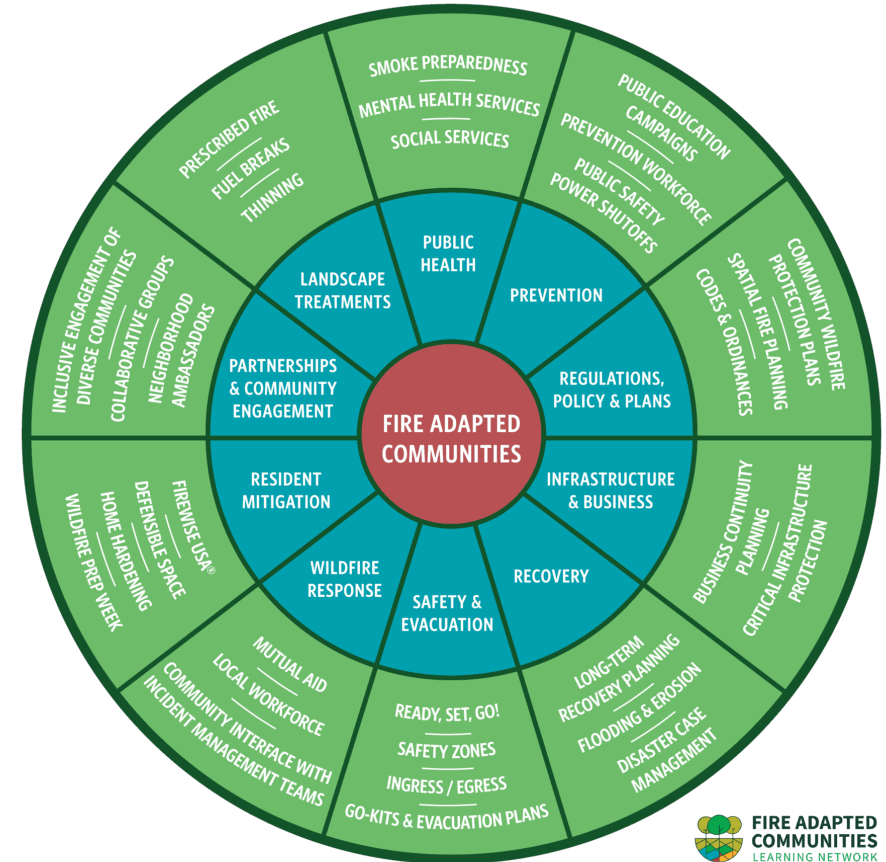
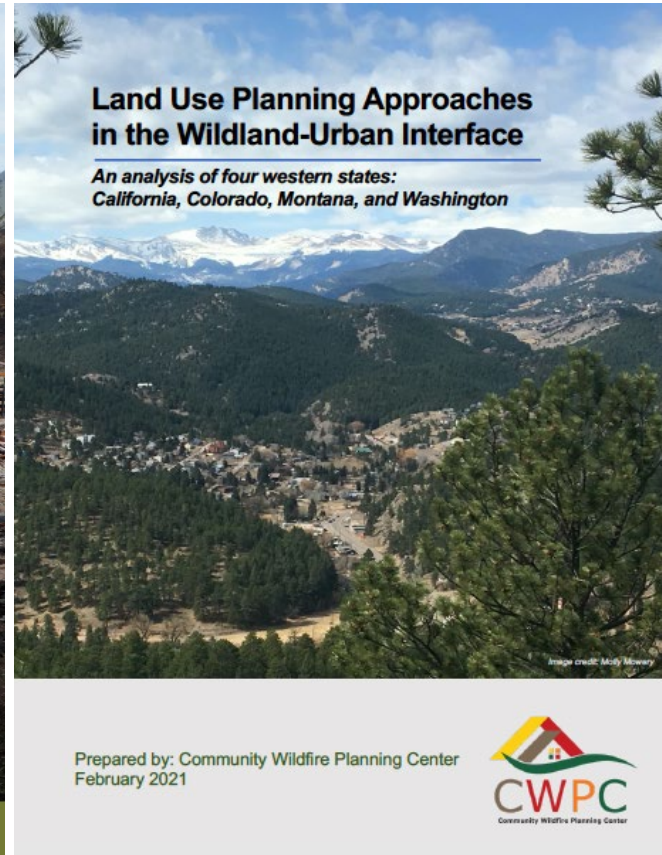
molly@communitywildfire.org

www.communitywildfire.org



Image: NIFC Photo Library

Learn More



communitywildfire.org

fireadaptednetwork.org

Additional Resources

- **OPR General Plan (GP) Guidelines (2017)**
<http://opr.ca.gov/planning/general-plan/guidelines.html>
- **OPR Fire Hazard Planning Technical Advisory (2020 Update)**
http://opr.ca.gov/docs/20201109-Draft_Wildfire_TA.pdf
- **OPR Evacuation Routes Technical Advisory** (in progress, public draft late 2021 or early 2022)
- **CA Adaptation Clearinghouse** <https://resilientca.org/>
- **CA Adaptation Planning Guide** <https://resilientca.org/apg/>
- **APA WUI Planning Guide** <https://communitywildfire.org/resources>
- **CAL FIRE Land Use Planning Program**
<https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/land-use-planning/>

Additional Resources

CalOES / FEMA: Hazard Mitigation Grants Program

- LHMP updates tied to safety element updates that address wildfire mitigation and climate adaptation may be eligible
- <https://www.caloes.ca.gov/cal-oes-divisions/recovery/disaster-mitigation-technical-support/404-hazard-mitigation-grant-program>

CAL FIRE: Fire Prevention Grant Program - Planning Grants

- Safety element updates are eligible, must address wildfire
- Details and guidelines: <https://www.fire.ca.gov/media/hrwgvghb/fire-prevention-grants-fy20-21-and-fy21-22-procedural-guide-final.pdf>

CAL FIRE - Initiatives & Resources

Coming Soon in 2022

Wildfire Land Use Training Program

Fall 2022 - Training

New training program to help planners across California learn more about wildfire risk reduction through land use tools.

Fire Hazard Severity Zone Maps

Release of State Responsibility Area Maps - Early 2022

Release of Local Responsibility Area Maps - Late 2022

The current maps (last updated 2007-2010) are being updated to incorporate improved fire science and a more spatially detailed model. SB 63 and AB 642 will result in published maps for the LRA high and moderate zones with corresponding building requirements.

State Minimum Fire Safe Regulations Update (Board of Forestry and Fire Protection)

Public Review Draft - Spring 2021, this draft is under internal review and editing and IS NOT final.

Final Draft - TBD

The regulations set certain minimum standards for structures, subdivisions, and developments in State Responsibility Area (SRA) and Local Responsibility Area (LRA) Very High Fire Hazard Severity Zones (VHFHSZ).

Other Initiatives

- Fire Prevention Grant Program
- Community Home Hardening Model Program (Pilot Program)
- Defensible Space Assistance Program (Pilot Program)



OPR - Initiatives & Resources

Coming Soon in 2022

Fire Hazard Planning Technical Advisory

2022 - Final Release

Guidance for complying with statutory requirements to address wildfire hazards and associated risks in the general plan safety element.

WUI Best Practice Project

Spring 2022 - Release a WUI Planning Tools Guide and up to 10 best practice case studies

Catalogues local government best practices for planning and enforcement that address wildfire hazards and risks in the WUI.

Wildfire & Flood-After-Fire Plan Alignment Guides

Spring 2022 - Gather feedback

Summer 2022 - Publish final Plan Alignment Guides

Guidance for how different planning processes can be aligned to better leverage their resources and capacity to prepare for future hazards.

Evacuation Technical Advisory

Spring 2022 - Draft Release

Late 2022/Early 2023 - Final Release

Guidance to assist planners in discussions with professionals from hazard mitigation, emergency response, and disaster recovery agencies as they work together with community members to develop effective evacuation policies for the general plan.




WILDFIRE/HOUSING SERIES

Resource Guides

Completed

- ✓ 1 Wildfires - Research, Science & Key Organizations
- ✓ 2 Marin Wildfire Prevention Authority (MWPA)
- ✓ 3 Home Hardening and Defensible Space Resources for Residents
- ✓ 4 Fire Safe Marin's Collaborative Wildfire Public Education and Programs
- ✓ 5 New Evacuation Laws, Key Considerations and Planning Resources
- ✓ 6 Coming Soon - 2022 State Initiatives & Resources



Technical Assistance
for Local Planning
HOUSING

RESOURCE GUIDE #6

Draft 12/2/2021

RESOURCE GUIDE #6

Coming Soon – 2022 State Initiatives & Resources

With numerous new State laws affecting wildfire planning, mitigation and evacuations, State agencies are responding to new requirements with updated regulations, advisory guides and programs. This Resource Guide compiles the key initiatives and resources coming in 2022 that will help Bay Area agencies.

WILDFIRE - PLANNING & PROGRAMS

Fire Hazard Planning Technical Advisory (OPR)

Public Review Draft – November 2020

Final Release – 2022 after internal review and editing; Final document will be posted to OPR's General Plan Webpage

The Technical Advisory provides cities and counties with guidance for complying with statutory requirements to address and mitigate wildfire hazards and associated risks in the general plan safety element. This Technical Advisory can assist cities and counties as they revise their general plans to better address fire hazards and reduce the associated risks. The goal of the Technical Advisory is to provide a robust planning framework for addressing fire hazards, reducing risk, and increasing resilience across California's diverse communities and landscapes. The update provides guidance on:

- outreach and engagement to promote more robust and collaborative wildfire solutions,
- conducting comprehensive wildfire hazard and risk assessments,
- aligning and integrating these assessments across a variety of plans, and
- developing general plan policies and programs that reduce risk for existing and future communities.

The Advisory includes sample policies, programs, case studies, potential funding sources, and other resources and tools to support local planning and implementation to reduce wildfire risk at the community scale.

Background: In 2015, OPR published an initial Fire Hazard Planning TA to address Senate Bill [SB] 1241 (2012) which revised the safety element provisions in State law to require all cities and counties whose planning area is within the state responsibility area or very high fire hazard severity zones to address and incorporate specific information regarding wildfire hazards and risks. These requirements are codified in Gov. Code § 65302(g)(3) and 65302.5(b). Pursuant to the requirements of SB 901 (Dodd, 2018) and Assembly Bill [AB] 2911 (Friedman, 2018), as codified in Gov. Code § 65040.21, OPR is now updating the document to include "specific land use strategies to reduce fire risk to buildings, infrastructure, and communities" and preparing the TA "in consultation with the Department of Forestry and Fire Protection (CAL FIRE), the State Board of Forestry and Fire Protection (State Board), and other fire and safety experts." Per Gov. Code § 65040.21, OPR must update the guidance document "not less than once every eight years."


WUI Land Use Best Practices Inventory (OPR)

Partial Release – Winter 2021, Ten best practice case studies

Final Release – Spring 2022, Final documents will be posted on the California Adaptation Clearinghouse

The Best Practices Inventory will catalog local government best practices for planning and enforcement that address and reduce wildfire hazards and risks in the wildland-urban interface (WUI). This project builds on OPR's Fire Hazard Planning Technical Advisory by highlighting specific mitigation and resilience activities taking place in the WUI. The inventory and best practice case studies can inform local agency planners, consultants, fire officials, emergency management officials, climate adaptation and resilience officials, and other interested stakeholders as they develop wildfire prevention, mitigation, and adaptation goals and programs.

Background: On June 27, 2019, Governor Newsom signed the Budget Act of 2019 (AB 74, Statutes of 2019, Chapter 23), which provided state budget appropriations for fiscal year 2019–20. CAL FIRE received \$10 million for the purpose of fire protection, of which \$250,000 was earmarked for OPR to inventory and publish on its website best practices reflected in local planning ordinances and enforcement practices undertaken at the local level in the wildland urban interface. A portion of this funding is being used for the inventory.

 Association of Bay Area Governments

WORK GROUP: Wildfires – How to Preserve and Protect Housing

1

Challenge 1

Density & Setbacks



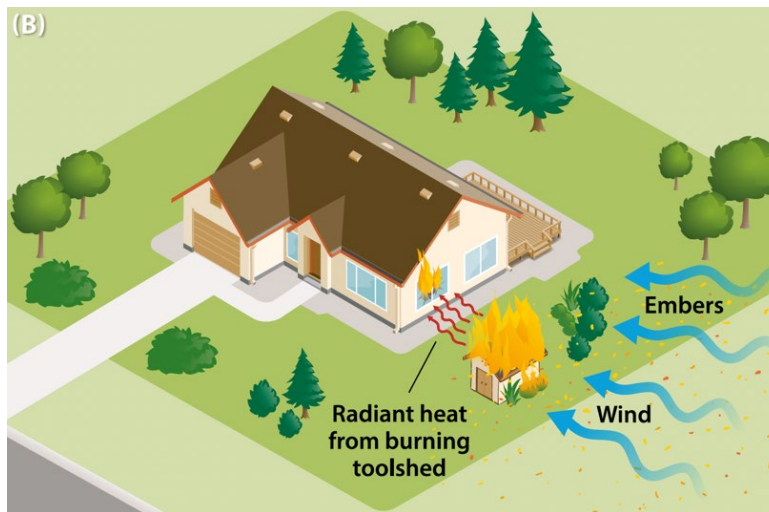
SESSION #1, Slide 48
Daniel Gorham



Three ways homes ignite in wildfire events:



Embers



Radiant Heat



Flame Contact

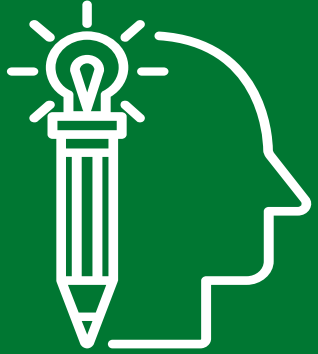


SESSION #2, Slide 11

Yana
Valachovic

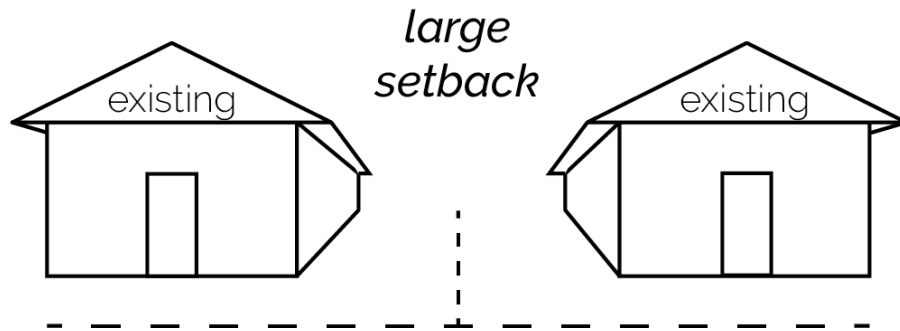
Stephen
Quarles, Ph.D.

CHALLENGE 1

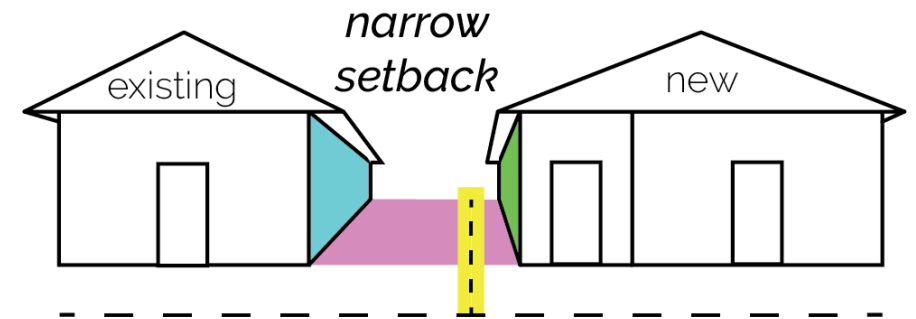


How can homes with minimal setbacks be made more resilient for a fire adapted environment? While large setbacks between structures can reduce the likelihood of radiant heat ignition between homes, large setbacks also limit flexibility in accommodating needed housing. How can we add density (additional units or ADUs), while also adding protection to homes and neighborhoods?

- What are strategies for existing homes?
- What are strategies for new homes including ADUs?
- What are strategies for the neighborhood scale?



• *Baseline best practices for home hardening and defensible space.*

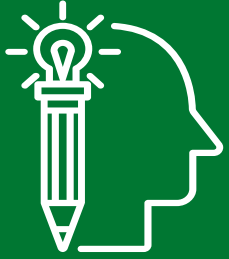


• *Baseline, plus special design considerations.*



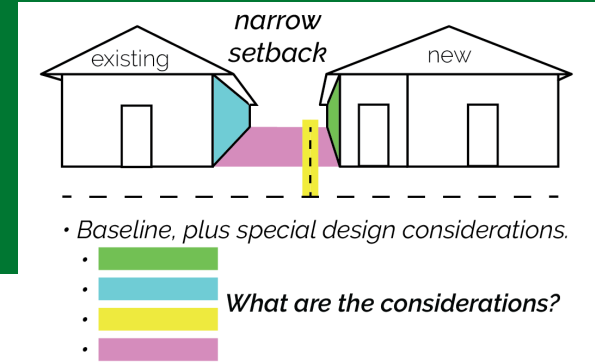
What are the considerations?

CHALLENGE 1



How can homes with minimal setbacks be made more resilient for a fire adapted environment?

- What are strategies for existing homes?
- What are strategies for new homes including ADUs?
- What are strategies for the neighborhood scale?



APPROACHES 1

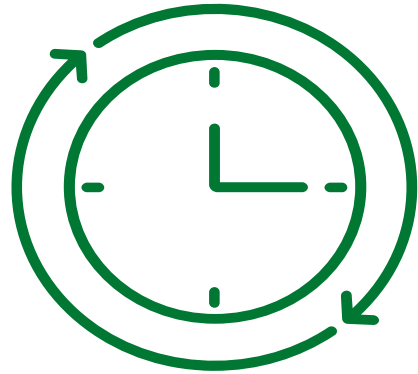


Start with baseline best practices. Preventing any home from igniting is the number one priority. Address the three types of fire exposures: radiant heat, embers, and direct flame contact. Incorporate the zero-to-five foot defensible space zone, property-wide defensible space measures, and home hardening.

Build new housing to WUI code. Making new housing fire hardened in construction will reduce its risk. If a new building replaces a pre-2009 building this likely reduces a neighbor's risk.

Consider higher Chapter 7a standards. Not all Chapter 7a homes are equal. Particularly homes with narrow setbacks, consider requiring a one-hour fire rating on adjacent walls as well as installation of windows with at least one pane of tempered glass.

Zone Zero Clear & Clean - especially with adjacent homes & narrow setbacks. Sheds, piles, and other combustibles located near buildings increase the main building's vulnerabilities. Zone Zero and home hardening apply to all structures on the property.



BREAKOUT ROOMS

Challenge #1

#1

What approach do you think will work in your community?

#2

In practice, what challenges do you foresee and/or the solutions some of the experts identified?

#3

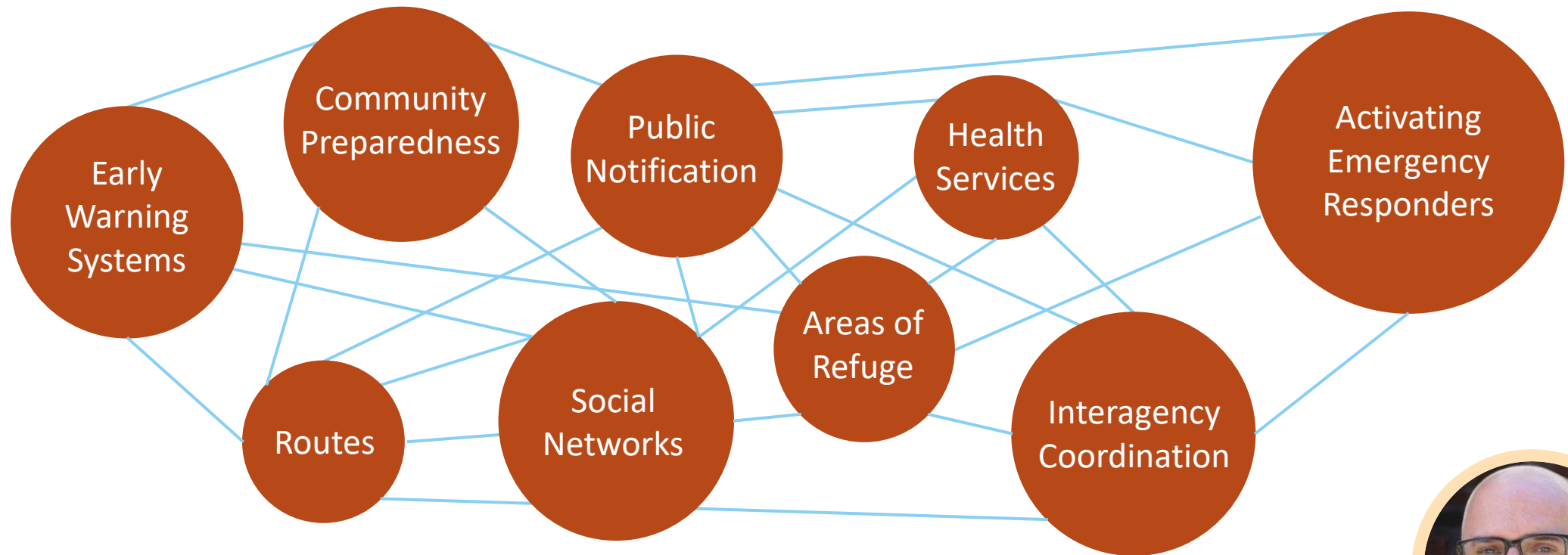
What additional information or products would you need to address the challenge?

Challenge 2

Evacuations



Evacuation routes are just one piece of an effective emergency management process.



SESSION #3, Slide 13
Erik de Kok

Static Evacuation Analysis

Infrastructure

Critical Locations
(schools, hospitals, etc.)

Roads

Hazard

Wildfire
Seismic
Other...

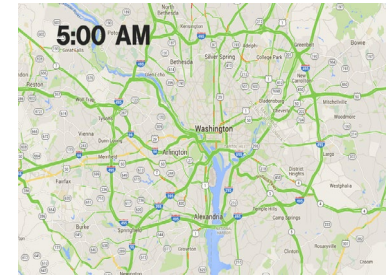
Populations

Parcels

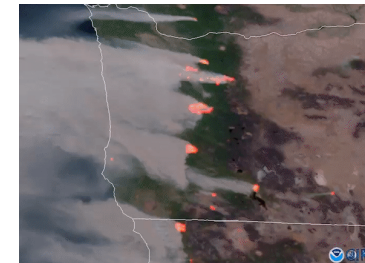
People

Vehicles

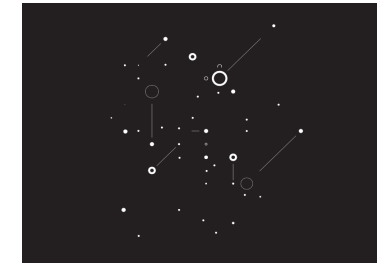
Dynamic Evacuation Analysis



Traffic



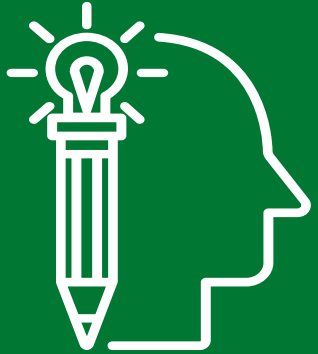
Hazard Evolution



Communications



CHALLENGE 2

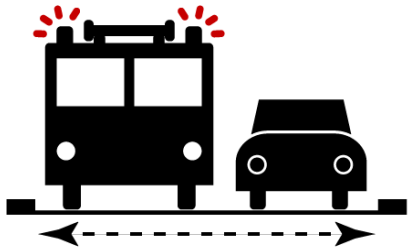


How can we better prepare our residents, provide access for fire apparatus and reduce congestion to accelerate actual evacuation times in an emergency?

Fire apparatus need a minimal width to protect homes. A range of factors, including the number of households evacuating, are a factor in evacuation throughput. How can we add density (additional units or ADUs), while also addressing evacuation for residents?

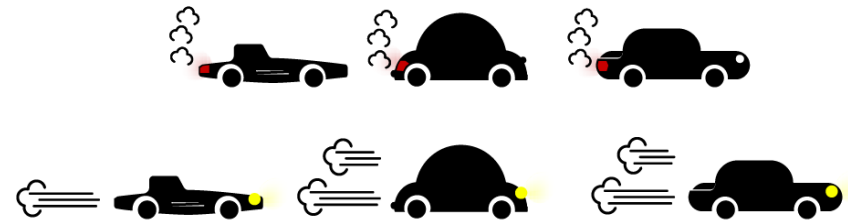
- What approach can identify these existing conditions?
 - What strategies might address fire apparatus access?
 - What strategies might address evacuation clearance time?

CHALLENGE 2a - Fire Apparatus Access



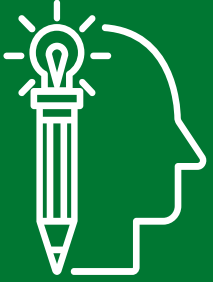
- *Sufficient access and right-of-way for fire apparatus*

CHALLENGE 2b - Evacuation Clearance Time



- *Sufficient measures to improve clearance time.*

CHALLENGE 2



How can we better prepare our residents, provide access for fire apparatus and reduce congestion to accelerate actual evacuation times in an emergency?

- What strategies might address fire apparatus access?
- What strategies might address evacuation clearance time?

APPROACHES 2



Build your team. Bring together emergency management, fire, law enforcement with planners to discuss the new laws, tools, community issues and overall approach.

Conduct evacuation analysis. Leveraging compliance with SB 99 and AB 747 (see Session 3), use information to make informed decisions about actions to improve evacuation outcomes for existing and future residents.

Define your challenge. Which of the two challenges are issues in the community? Where are they most significant?

Challenge 2a concepts. When right-of-way is a challenge, parking strategies may be key. In some cases, widening, connectivity, or other major investments may be transformational. Creating greater defensible space along fire evacuation routes is also key.

Challenge 2b concepts. See next slide from Session 3.

Each community is different, use simulations to identify the best strategies to improve evacuation in wildfire emergencies.

Demand-side Strategies

- Phased evacuations
- Information: fast notification and sharing of enroute traffic conditions
- Vehicle reduction: car-pooling; reducing towed vehicles
- Areas of refuge/shelters

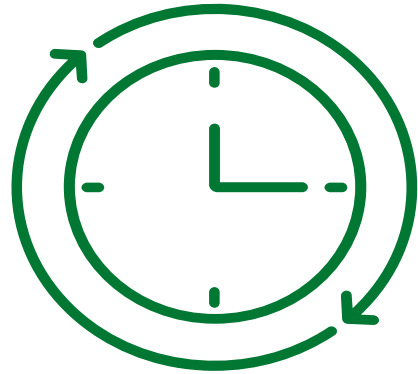
Supply-side Strategies

- Lane volume: contraflow, limited street parking on red-flag days
- Intersection efficiency: adjusted traffic signals, etc.
- Roadway vegetation management to limit fire-induced road closures



SESSION #3, Slide 35

Bingyu Zhao, Ph.D.



BREAKOUT ROOMS

Challenge #2

#1

What approach do you think will work in your community?

#2

In practice, what challenges do you foresee and/or the solutions some of the experts identified?

#3

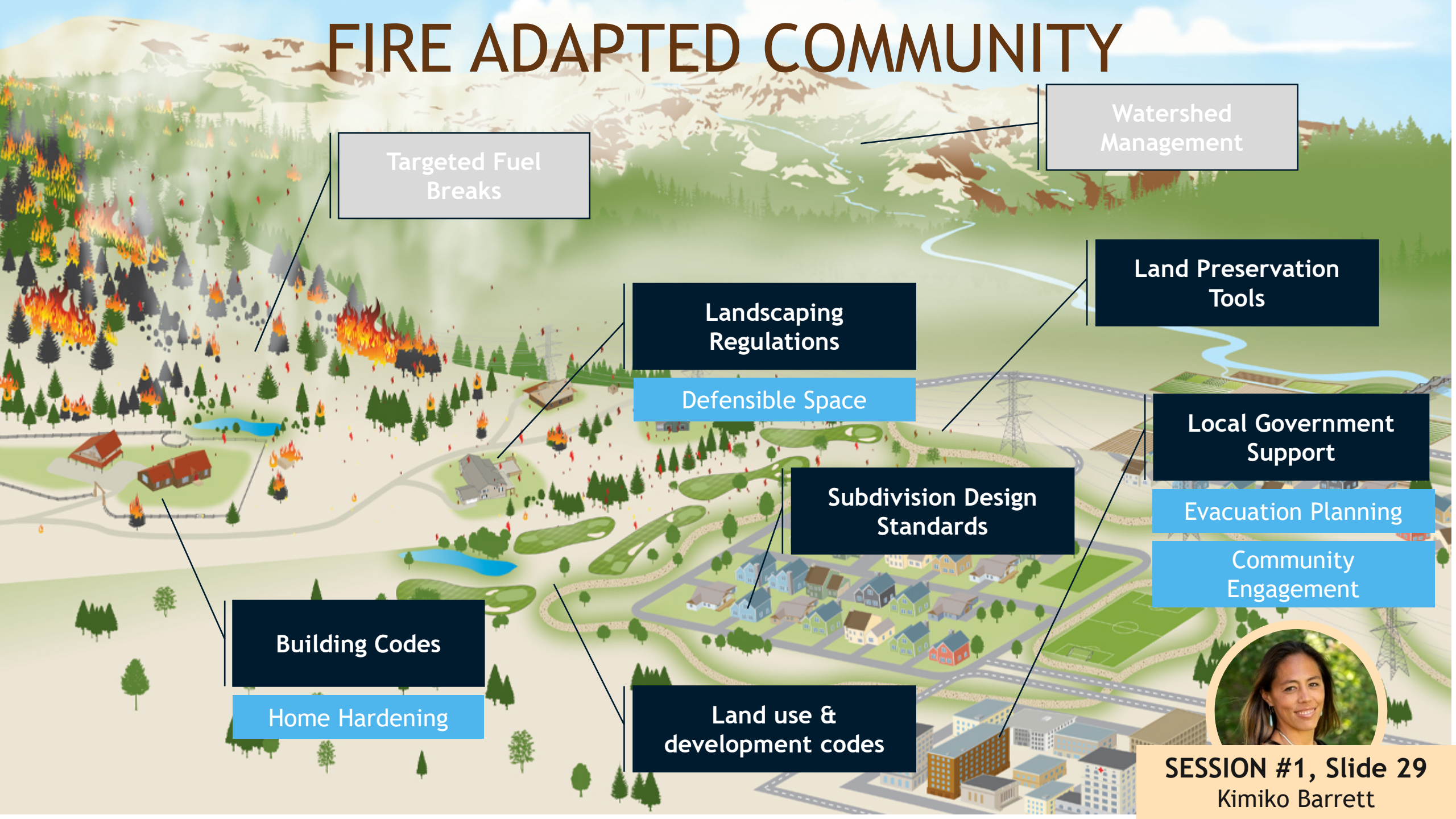
What additional information or products would you need to address the challenge?

Challenge 3

Community Scale Action



FIRE ADAPTED COMMUNITY



Targeted Fuel Breaks

Watershed Management

Land Preservation Tools

Landscaping Regulations

Defensible Space

Local Government Support

Evacuation Planning

Community Engagement

Subdivision Design Standards

Building Codes

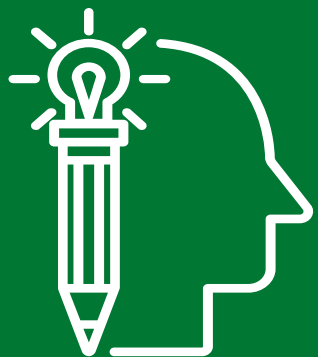
Home Hardening

Land use & development codes



SESSION #1, Slide 29
Kimiko Barrett

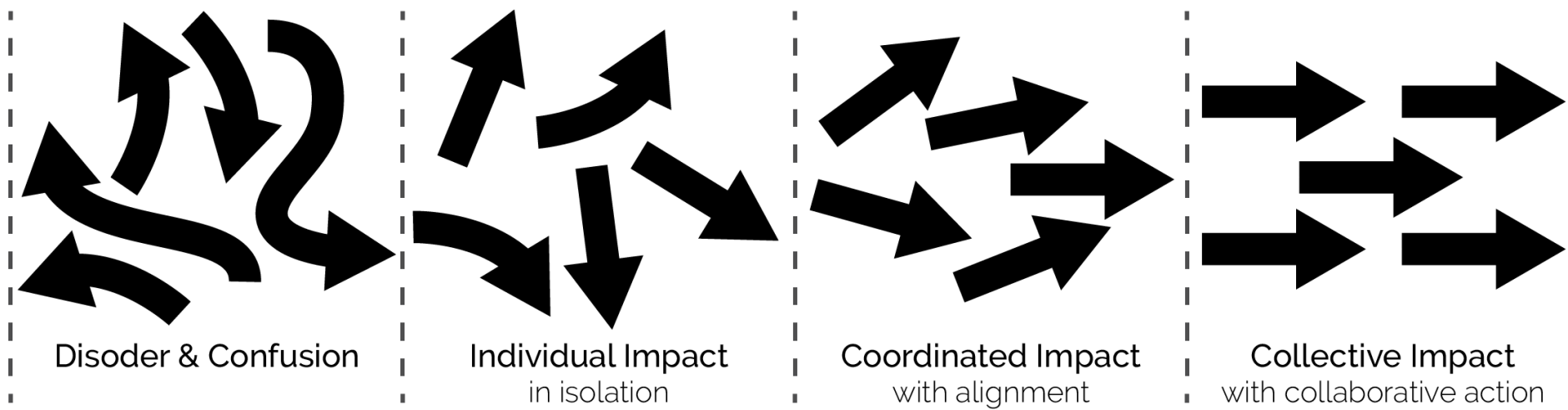
CHALLENGE 3



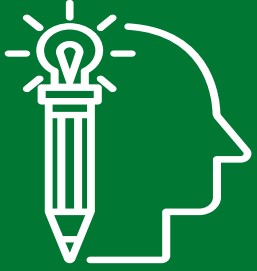
How can communities take action together on wildfire adaptation?

Many wildfire adaptation actions are the responsibility of individuals, but the risk is shared. A single resident can't adapt to fire alone, it takes community-scale action.

- What are the approaches to collective wildfire action?
- How can collective action be advanced through the housing element?



CHALLENGE 3



How can communities take action together on wildfire adaptation?

- What are the approaches to collective wildfire action?
- How can collective action be advanced through the housing element?

APPROACHES 3




- **Planning, not a Plan.** The process of planning builds relationships, knowledge, investigates hazards, initiates mitigations and moves a community forward in its adaptation to wildfires. The plan is important, but the planning process is the key.
- **Engage, educate, empower.** Individuals must take action
- **Borrow from others.** Resources from State agencies, non-profits, and other cities can be borrowed directly or altered slightly for your community (see Resource Guide #3).
- **Partner with others.** Amplify your reach by finding a local community partner like Fire Wise (see Resource Guide #1) or Fire Safe Marin (see Resource Guide #4). Explore multi-jurisdictional approaches like Marin Wildfire Prevention Authority (see Resource Guide #2) to advance actions with neighbors.

WILDFIRE/HOUSING SERIES

Resource Guides

Completed

- ✓ 1 Wildfires - Research, Science & Key Organizations
- ✓ 2 Marin Wildfire Prevention Authority (MWPA)
- ✓ 3 Home Hardening and Defensible Space Resources for Residents
- ✓ 4 Fire Safe Marin's Collaborative Wildfire Public Education and Programs
- ✓ 5 New Evacuation Laws, Key Considerations and Planning Resources
- ✓ 6 Coming Soon 2022 - State Resources
- ❑ 7 Integrating Lessons into Land Use and Housing Element Planning



Technical Assistance
for Local Planning
HOUSING

RESOURCE GUIDE #7


Draft 11/30/2021

RESOURCE GUIDE #7

Tackling Housing Challenges in the WUI

To be developed. TBD on whether all of this belongs in one resource guide or in multiple, or if the information should exist in a different format (slides, other).

When tackling housing challenges in the WUI, consider using the steps detailed in Figure A. Consider the geographic areas that have increased challenges with wildfire. Determine what problems need to be addressed in these areas with a policy. Finally, communicate that policy to partners, community groups, and property owners. These steps are reflected in many of the resources detailed throughout this document.



Where
map, overlay, zone

What
requirement, standard, regulation

Communicate
medium, partners

Figure A: The "Where, What, and Communicate" of land use planning for wildfire resilience

Challenge 1. How can homes with minimal setbacks be made more resilient for a fire adapted environment?

Understanding the Challenge

Properties with minimal setbacks in areas of dense housing may be situated in or near the WUI. Larger setbacks between structures can reduce the likelihood of radiant heat ignition between homes but also limit flexibility in accommodating needed housing. In many neighborhoods, larger setbacks are not feasible or need to be reduced to accommodate new housing additions, developments, or ADUs. To meet the challenge of a housing crisis while also mitigating risk to wildfire in densely populated areas, jurisdictions will need to implement innovative policies and programs. Suburban and urban communities located in the WUI must expand their perspective of wildfire mitigation beyond individual property lines to accomplish wildfire adaptation at a neighborhood scale. [Working Group 1: Resiliency](#) (40:25; slides 47-48). Jurisdictions may need to take a leading role in coordinating the work to expand regulations for development in the WUI, educate the community about home hardening and defensible space, implement wildfire mitigation on a neighborhood scale, and work with landlords and homeowners to effectively deploy these strategies.

Resource, Ideas, and Approaches for Possible Paths Forward

To address this challenge, practitioners can pull from existing regulations, program and policy tools, and local examples of how jurisdictions in the Bay Area are grappling with wildfire adaptation in areas with small lots.

Fire Safe Regulations - Link

The Fire Safe Regulations constitute the basic wildfire protection standards of the California Board of Forestry and Fire Protection. They have been in effect in the State Responsibility Areas (SRA) for many years, and as of July 1, 2021, are a standard for the Local Responsibility Area (LRA), Very High zone. The standards are undergoing an active review and will be formally updated in 2022 (see Section 1 above).

Association of Bay Area Governments

WORK GROUP: Wildfires – How to Preserve and Protect Housing

1

Thank you for joining today!

Check out the new web portal

<https://abag.ca.gov/technical-assistance/wildfires-how-preserve-and-protect-housing>

Remember the Resource Guides

Wildfires – How to Preserve and Protect Housing



Session 1: Wildfires & Housing 101

Session 2: Defensible Space & Home Hardening with CAL FIRE Updates

Session 3: Evacuations – The Law, Practical Approaches & Technology Tools

Session 4: Land Use Planning in the WUI, Including ADUs

THANK YOU TO OUR SESSION SPEAKERS!



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